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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,588	08/02/2001	Bradley S. Withers	5646/CMP/CMP/RKK	9496

32588 7590 10/29/2002

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

SHAKERI, HADI

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 10/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/921,588

Applicant(s)

WITHERS ET AL.

Examiner

Hadi Shakeri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 September 2002, paper no. 5.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

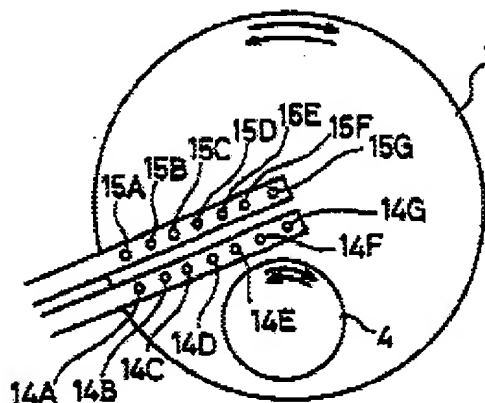
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9, 15-25, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al., US Patent No. 5,679,063.

Kimura et al. (PA) discloses all the limitations of claims 1, 16, 19 and 23, i.e., a system for delivering a “polishing” fluid to a CMP surface comprising an arm (13), first and at least a second nozzle (10 A... 15A...) adapted to deliver the fluid at different rates.



Regarding claims, 2-5, 7-9, 15, 17, 18, 20-22, 24, 25, 28 and 29, PA meets the limitations, e.g., a flow control device coupled to each of the nozzles, col. 5, lines 20-25; measurement of wafer, col. 4, lines 50-59.

Regarding claims, 6, PA meets the limitations, col. 6, lines 30-35.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. in view of Applicant's Admitted Prior Art.

Kimura et al. as applied to claim 9 above meets all the limitations of claims 10 and 11 except for disclosing the type of polishing materials used, however as indicated by Applicant on page 4, it is known in the art to use either conventional pad (e.g., polyurethane), fixed abrasive pad or webs. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize polyurethane, or fixed abrasive pad or web, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin* 125 USPQ416.

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.

Kimura et al. meets all the limitations of claims 10 and 11 except for disclosing the specific flow rates. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the specified flow rate depending on the measured properties and desired end results, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al. in view of Winebarger, US Patent No. 5,433,650.

Kimura et al. meets all the limitations of claims 26 and 27 except for disclosing adjusting the flow rate during the polishing in response to a polishing metric. Winebarger teaches a method for polishing a substrate in which the polishing parameters are adjusted during the

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polishing based on monitored values. It is known in the art, as shown by Winebarger, to adjust the polishing parameters during the operation it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of prior art by providing means for in-situ monitoring and adjustment in view of Winebarger, to enhance the polishing operation.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Response to Arguments***

8. Applicant's arguments filed 9/17/02 have been fully considered but they are not persuasive. In response to applicant's argument that Kimura does not teach each and every element of the claims, i.e., nozzles "adapted" to flow the polishing fluid at different rates, it is noted that as the Applicant admitted Kimura discloses a plurality of nozzles 15A, 15B... 15G are equipped with needle valves to control the flow, thus it seems the argument is that "water" is not considered as "polishing fluid", however, water is considered by the Examiner to meet the limitations of polishing fluid as defined in the claims. Further it is noted that Kimura also teaches

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the use of valve for solution supply nozzles; attention is directed to the embodiment depicted in Fig. 8. Kimura discloses in col. 5, lines 43-67 and col. 6, lines 1-11, a solution supply nozzle (19) with a needle valve, col. 5, lines 53-55, and further discloses that "it is permissible to provide several nozzles", col. 6, lines 5 and 6, therefore the argument that the Examiner has failed to establish a prima facie case is not persuasive.

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Hadi Shakeri at (703) 308-6279, FAX (703) 746-3279 for unofficial documents. The examiner can normally be reached on Monday-Thursday, 7:30 AM to 6:00 PM. Official documents may be faxed to (703) 872-9302, after final to (703) 872-9303.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist at (703) 308-1148.



EILEEN P. MORGAN  
PRIMARY EXAMINER

HS  
  
October 23, 2002